

Notice of Allowability

Application No.

10/689,655

Examiner

Minerva Rivero

Applicant(s)

NAGATOMI ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/15/06.
2. ☒ The allowed claim(s) is/are 1-8 and 10-17.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____



DETAILED ACTION

1. In the Remarks filed 9/15/06 Applicants amended claims 1-5, 8 and 10-13, cancelled claim 9, added claim 17, and submitted arguments for allowability of pending claims.

Response to Arguments

2. Applicant's arguments, see Remarks, filed 9/15/06, with respect to claims 1-17 have been fully considered and are persuasive. The 102 rejection of claims 1-17 has been withdrawn.

Allowable Subject Matter

3. Regarding claims 1, Mori discloses an optical pickup device for performing recording and/or reproduction of information by irradiating laser light onto a disk, the optical pickup device comprising:

(a) an astigmatic lens for receiving and converging a split laser beam reflected from the disk (*light is converted from a parallel light into a light having a diffusion angle in a converging direction*, Col. 15, Lines 38-43);

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(b) a photodetector for receiving and converging a split laser beam reflected from the disk (*divided light*, Col. 15, Lines 38-40);

(c) an objective lens drive actuator for receiving a focus servo signal generated from an electrical signal outputted from the photodetector and adjusting the laser beam in an on-focus state (*optical pickup operation when thickness is 0.6mm and condenser lens*, Col. 15, Lines 8-13 and 26-33; *high-density vs. low-density optical disk*, Col. 1, Line 60 – Col. 2, Line 12); and

(d) a lens designed to converge reflection light from the disk when a thickness of an intermediate layer, between a disk surface and a recording layer, is greater or smaller than an optimum value by a predetermined degree (*optical pickup operation when thickness is 0.6mm and condenser lens*, Col. 15, Lines 8-13 and 26-33; *high-density vs. low-density optical disk*, Col. 1, Line 60 – Col. 2, Line 12).

However, no reference alone or in combination discloses

(e) a photodetector that receives the reflection light converged by the lens (d) to output an electric signal, and when the thickness of the intermediate layer assumes the optimum value, receives a predetermined portion of the reflection light with reference to a total light quantity of the reflection light, wherein the components (d) and (e) detect a spherical aberration when the laser light is in an on-focus state ; and

a diffusion angle converter that changes a diffusion angle of the laser light traveling toward the disk in accordance with a servo signal generated from the electric signal outputted from the photodetector (e), wherein component (f) corrects the spherical aberration when the laser light is in an on-focus state.

Therefore claim 1, and dependent claims, 2-8, are allowed.

4. Regarding claim 17, Mori discloses a recording and/or reproducing device comprising:

an optical pickup including an astigmatic lens for receiving and converting a split laser beam reflected from the disk, a photodetector for receiving the converged beam from the astigmatic lens and an objective lens drive actuator for receiving a focus servo signal and adjusting the laser beam in an on-focus state (*light is converted from a parallel light into a light having a diffusion angle in a converging direction*, Col. 15, Lines 38-43); and

a servo circuit including circuitry associated with the photodetector for generating a focus error signal and a focus servo circuit for receiving the focus error signal and generating the focus servo signal ([0027]),

the servo circuit including:

(d) the drive circuit for generating the servo signal for correcting the spherical aberration from the electric signal outputted from the photo detector (b) ([0027]).

the optical pickup further including:

(a) a lens designed to converge reflection light from the disk when a thickness of the immediate layer, between a disk surface and a recording layer, is greater or smaller than an optimum value by a predetermined degree (*optical pickup operation when thickness is 0.6mm and condenser lens*, Col. 15, Lines 8-13 and 26-33; *high-density vs. low-density optical disk*, Col. 1, Line 60 – Col. 2, Line 12).

However, no reference alone or in combination discloses:

(b) a photodetector that receives the reflection light converged by the lens (a) to output an electric signal, and when the thickness of the intermediate layer assumes the optimum value, receives a predetermined portion of the reflection light with reference to total light quantity of the reflection light, wherein components (a) and (b) detect a spherical aberration when the laser light is in an on-focus state; and

(c) a diffusion angle converter that changes a diffusion angle of the laser light traveling toward the disk in accordance with a servo signal from a drive circuit, thereby correcting the spherical aberration when the laser light is in an on-focus state.

Therefore claim 17, and dependent claims 10-16, are allowed.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minerva Rivero whose telephone number is (571) 272-7626. The examiner can normally be reached on Monday-Friday 9:00 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MR 12/12/06



WAYNE YOUNG
SUPERVISORY PATENT EXAMINER